

REMARKS

The courteous interview granted to applicant's undersigned attorney by Examiner Lee on 12 April 2006 is hereby acknowledged with appreciation. At the interview, the invention, the outstanding Office Action, and the prior art of record were thoroughly discussed.

As indicated in the PTOL-413, Interview Summary, the increased density of applicant's packing arrangement of the claimed active particles (as shown, for example, in Figs. 21(a), (b), (f) and Fig. 22) is achieved by granulation (see specification, page 6) of a mixture of high electron-conductive material (HC) with low electron-conductive material (LC), wherein some of the mixture is granulated into larger (granulated) particles, and some of the mixture, as smaller particles, is disposed in gaps of the granulated particles (see specification, page 6, lines 6-9 and lasts 5 lines).

Applicants' packing arrangement now has been specified to include both granulated particles and mixtures of low and high electron-conductive material disposed in the granulated particle gaps (see, for examples, Figs. 21(a), 21(b), 21(f) and especially Fig. 22).

Ikoma et al. discloses only aggregates that are formed from powders of nickel hydroxide containing 1-7% of a metal. These aggregates provide some density improvement by virtue of being both spherical and non-spherical but all particles are granulates (bound aggregates) that leave substantial gaps therebetween despite being both spherical and non-spherical in shape. Applicant provides a mixture (Fig. 21(a) - non-granulated material) of high electron-conductive material (HC) and low electron-conductive material (LC) disposed between granulated particles to substantially increase the packing density, which is totally unsuggested by Ikoma et al. or any other prior art record.

As disclosed in applicants' specification at the bottom of page 11, top of page 12:

"In these batteries, the particles in Figs. 21(a) to 21(h) are desirably used as the active material particles. The use of such particles allows electron conductivity of the fixed layer

filled with the active material particles to be improved and electric discharge is performed at a high output. In accordance with the three-dimensional battery of the present invention, the capacity (electric power amount) of the battery can be increased by increasing a volume of each cell. Assuming that a volume of 1 liter generates a power of 1W, then power of 1kW can be obtained by increasing the volume to 1 m³ and a power of 10kW can be obtained by increasing the volume to 10 m³. So, the enlargement of scale results in advantages in the production cost. Specifically, if the conventional battery of 10W costs 10 thousand yen, then the battery of 10kW costs 10 million yen. On the other hand, since the production unit cost of the battery of the present invention decreases with the scale up, the battery of the present invention costs about 1 million yen equal to 1/10 of the conventional battery.

Accordingly, it is submitted that the rejections should be withdrawn.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 13-2855, under Order No. 19036/40136 from which the undersigned is authorized to draw.

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Respectfully submitted,

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